

Abstract

An epilepsy model animal (CHRNA4:S284L) developing spontaneous epileptic seizure during sleep, which is a nonhuman animal established by ontogenesis of a totipotent cell into which a polynucleotide encoding nonhuman mutant CHRNA4 is introduced and having said polynucleotide in its somatic chromosome, or a progeny of the nonhuman animal, wherein said nonhuman mutant CHRNA4 has the corresponding mutation of human mutant CHRNA4 in which the 284th Ser of SEQ ID NO: 1 is substituted by Leu. The epilepsy model animal has gene abnormality homologous to human chromosomal dominant nocturnal frontal lobe epilepsy and a symptom (epileptic seizure during sleep) the same as that of human autosomal dominant nocturnal frontal lobe epilepsy.